

Claims

- [c1] 1.A saw blade assembly comprising:
- an arbor;
 - a first blade collar mounted to the arbor;
 - a saw blade having an aperture receiving the arbor;
 - a first washer interposed between the first blade collar and the blade; and
 - at least one shear pin coupling the first washer to the first blade collar,
- wherein upon a sudden blade stop the shear pin fractures to de-couple the first washer from the first blade collar.
- [c2] 2.The saw blade assembly of claim 1 further comprising a fastener for securing the saw blade and the first washer to the arbor.
- [c3] 3.The saw blade assembly of claim 2, wherein the arbor has a threaded female end and the fastener includes a screw threaded into the arbor.
- [c4] 4.The saw blade assembly of claim 2, wherein the arbor has a threaded male end and the fastener includes a threaded nut tightened onto the arbor.
- [c5] 5.The saw blade assembly of claim 4, wherein the first washer is made of an electrically insulating material, the first washer further comprising a hub extending into the aperture of the blade, the nut having an electrically insulating material applied to its surface on the side of the nut in contact with the blade, electrically insulating the blade from the arbor.
- [c6] 6.The saw blade assembly of claim 1 wherein the first blade collar defines at least one void therein, the shear pin being integral to the first washer, the shear pin extending from the side of the first washer that is juxtaposed to the first blade collar into the first blade collar void.
- [c7] 7.The saw blade assembly of claim 1 wherein the first washer and the first blade collar each have at least one void receiving the shear pin.
- [c8] 8.The saw blade assembly of claim 7, wherein the voids of the first blade collar and the first washer are notches and the shear pin is a key.

- [c9] 9.The saw blade assembly of claim 7, wherein the voids of the first blade collar and the first washer are holes.
- [c10] 10.The saw blade assembly of claim 7, wherein the void of the first washer is a through void.
- [c11] 11.The saw blade assembly of claim 10, wherein the shear pin further comprises a head having a larger perimeter than that of the through void, the shear pin being placed within the blade assembly with the shear pin head abutting the blade side of the first washer.
- [c12] 12.The saw blade assembly of claim 1 further comprising a low friction material applied to at least one of the first blade collar side of the first washer or the side of the first blade collar juxtaposed to the first washer.
- [c13] 13.The saw blade assembly of claim 1 further comprising a third washer made of a low friction material, the third washer being interposed between the first blade collar and the first washer.
- [c14] 14.The saw blade assembly of claim 1 further comprising a high friction material applied to at least one of the portion of the blade juxtaposed to the first washer or the blade side of the first washer.
- [c15] 15.The saw blade assembly of claim 1, further comprising a fourth washer made of a high friction material, the fourth washer being interposed between the blade and the first washer.
- [c16] 16.The saw blade assembly of claim 1, wherein the first blade collar is mounted to the arbor in a keyed relationship.
- [c17] 17.The saw blade assembly of claim 1, wherein the first blade collar is pressed onto the arbor.
- [c18] 18.The saw blade assembly of claim 1, further comprising a second washer juxtaposed the opposite side of the first washer side of the saw blade.
- [c19] 19.The saw blade assembly of claim 18, wherein the first and second washers are made of an electrically insulating material, the first washer further

comprising a hub extending into the aperture of the blade, electrically insulating the blade from the arbor.

- [c20] 20.The saw blade assembly of claim 19, wherein the second washer further comprises a hub extending into the aperture of the blade.
- [c21] 21.The saw blade assembly of claim 19, wherein the second washer has an aperture larger than the outer perimeter of the first washer's hub, and the hub of the first washer further extends into the aperture of the second washer.
- [c22] 22.The saw blade assembly of claim 21, wherein the hub of the first washer further comprises a threaded portion extending through the aperture of the blade, and the second washer further comprises inner threads, wherein the second washer is tightened onto the hub of the first washer.
- [c23] 23.The saw blade assembly of claim 18, wherein the first and second washers are made of an electrically insulating material, the second washer further comprises a hub extending into the aperture of the blade, electrically insulating the blade from the arbor.
- [c24] 24.The saw blade assembly of claim 23, wherein the first washer has an aperture larger than the outer perimeter of the second washer's hub, and the hub of the second washer further extends into the aperture of the first washer.
- [c25] 25.The saw blade assembly of claim 24, wherein the hub of the second washer further comprises a threaded portion extending through the aperture of the blade, and the first washer further comprises inner threads, wherein the first washer is tightened onto the hub of the second washer.
- [c26] 26.The saw blade assembly of claim 18, wherein the first and second washers are made of an electrically insulating material, the blade assembly further comprising an electrically insulating disc having an aperture receiving the arbor, the disc securely mounted within the blade aperture, electrically insulating the blade from the arbor.
- [c27] 27.The saw blade assembly of claim 18, wherein the second washer is a second blade collar.

- [c28] 28.The saw blade assembly of claim 27, wherein the second blade collar is mounted to the arbor in a keyed relationship.
- [c29] 29.The saw blade assembly of claim 18 further comprising a low friction material applied to at least one of the blade side of the second washer or the side of the blade juxtaposed to the second washer.
- [c30] 30.The saw blade assembly of claim 18 further comprising a fifth washer made of a low friction material, the fifth washer being interposed between the blade and the second washer.
- [c31] 31.The saw blade assembly of claim 19 further comprising:
a second blade collar mounted to the arbor; and
a fastener for securing the saw blade and the first washer to the arbor,
wherein the second blade collar is interposed between the second washer and the fastener.
- [c32] 32.The saw blade assembly of claim 31 further comprising a low friction material applied to at least one of the second blade collar side of the second washer or the side of the second blade collar juxtaposed to the second washer.
- [c33] 33.The saw blade assembly of claim 31 further comprising a sixth washer made of a low friction material, the sixth washer being interposed between the second washer and the second blade collar.
- [c34] 34.A saw blade assembly comprising:
an arbor having a reduced diameter portion;
an electrically insulating sleeve surrounding at least the reduced diameter portion of the arbor;
a first blade collar mounted to the arbor;
a saw blade having an aperture receiving the arbor, the saw blade mounted onto the electrically insulated reduced diameter portion of the arbor;
a first washer interposed between the first blade collar and the blade, the first washer being made of an electrically insulating material;
at least one shear pin coupling the first washer to the first blade collar;

and

a fastener securing the saw blade to the arbor, wherein upon a sudden blade stop the shear pin fractures to de-couple the first washer from the first blade collar.

- [c35] 35.The saw blade assembly of claim 34, wherein the arbor has a threaded female end and the fastener includes a screw threaded into the arbor.
- [c36] 36.The saw blade assembly of claim 35, wherein the screw has an electrically insulating material applied to its underside portion.
- [c37] 37.The saw blade assembly of claim 34, wherein the arbor has a threaded male end and the fastener includes a threaded nut tightened onto the arbor.
- [c38] 38.The saw blade assembly of claim 37, wherein the nut has a recess portion to receiving any overextending portion of the electrically insulating sleeve.
- [c39] 39.The saw blade assembly of claim 37, wherein an electrically insulating material is applied to the side of the nut that is juxtaposed the saw blade.
- [c40] 40.The saw blade assembly of claim 34 further comprising a second washer interposed between the saw blade and the fastener.
- [c41] 41.The saw blade assembly of claim 40, wherein the second washer is made of an electrically insulating material.
- [c42] 42.The saw blade assembly of claim 40, wherein the second washer is a second blade collar.
- [c43] 43.The saw blade assembly of claim 42, wherein the second blade collar is mounted to the arbor in a keyed relationship..
- [c44] 44.A saw blade assembly comprising:
an arbor;
a saw blade having an aperture receiving the arbor, the saw blade having at least one void; and
a first blade collar mounted to the arbor, the first blade collar juxtaposed the saw blade, the side of the first blade collar juxtaposed the saw blade

having at least one void; and
at least one shear pin placed within the saw blade void extending into the first blade collar void, coupling the blade to the first blade collar, wherein upon a sudden blade stop the shear pin fractures to de-couple the blade from the first blade collar.

- [c45] 45.The saw blade assembly of claim 44, further comprising a first washer interposed between the first blade collar and the blade, the first washer having at least one through void, wherein the shear pin within the saw blade void extends through the first washer void into the first blade collar.
- [c46] 46.The saw blade assembly of claim 44 further comprising a fastener securing the saw blade to the arbor.
- [c47] 47.The saw blade assembly of claim 46 further comprising a second washer interposed between the saw blade and the fastener.